

Appl. No. 10/040,118
Amdt. dated June 17, 2004
Reply to Office action of March 24, 2004

AMENDMENT TO THE CLAIMS

Claim 1 (currently amended): A method of filling holes in a substrate having a plurality of holes to be filled comprising:

providing an etched hole-fill stand-off;
aligning the stand-off to a tooling plate;
aligning the substrate to the stand off and placing the substrate in contact with the stand-off; and

filling the plurality of the holes of the substrate utilizing a pressurized fill head while maintaining proper alignment between the plurality of holes in a substrate and holes of the stand-off.

Claim 2 (currently amended): A method of filling holes in a substrate having a plurality of holes to be filled comprising: ~~A method of claim 1 wherein providing an etched hole file stand-off comprises~~

providing an etched hole-fill stand-off ~~comprises~~ comprising imaging a copper clad laminate with an image similar to that used to image a surface of the substrate, and subjecting the imaged laminate to develop-etch-strip processing to form a pattern in a copper surface of the laminate, the pattern having a plurality of holes, each of the plurality of holes corresponding to a hole to be filled of the substrate, the laminate holes being at least slightly larger in diameter than their corresponding substrate holes;

aligning the stand-off to a tooling plate;

aligning the substrate to the stand off and placing the substrate in contact with the stand-off; and

filling the plurality of the holes of the substrate.

Claim 3 (original): The method of claim 2 further comprising filling the ~~through~~ holes of the substrate with a fill material such that the fill material extends at least partially into the holes of the stand-off.

Claim 4 (original): The method of claim 3 further comprising removing the substrate from the stand-off wherein substantially all of the fill material extending into the stand-off remains after removal of the stand-off.

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Claim 5 (canceled).

Claim 6 (new): A method of Claim 2 wherein filling the plurality of holes of the substrate utilizes a pressurized fill head while maintaining proper alignment between the plurality of holes in a substrate and holes of the stand-off.

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